Returns to work after retirement: A prospective study of unretirement in the United Kingdom

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Abstract

Despite the complexity of the retirement process, most research treats it as an abrupt and one-way transition. Our study takes a different approach by examining retirement reversals (unretirement) and their predictors. Using the British Household Panel Survey (1991–2008), and following participants into Understanding Society (2010–2015), we undertake a survival analysis to investigate retirement reversals among Britons aged 50–69 years who were born 1920–1959 (N=2046). Unretirement was defined as: 1) reporting being retired and subsequently recommencing paid employment, or 2) beginning full-time work following partial retirement (the latter defined here as reporting being retired and working fewer than 30 hours per week). A cumulative proportion of around 25 per cent of participants experienced a retirement reversal after reporting being retired; about half of these reversals occurred within the first five years of retirement. Unretirement was more common for participants who were male, more educated, in better health, owned a house with a mortgage (compared to owning it outright), and whose partner was in paid work. However, unretirement rates were not higher for participants in greater financial need, whether measured as subjective assessment of finances or household income quintiles. These results suggest that unretirement is a strategy more often used by those who are already advantaged and that it has the potential to exacerbate income inequalities in later life.

Key words

Unretirement, post-retirement employment, British Household Panel Survey (BHPS), Understanding Society.

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Introduction

It has long been argued that retirement should not be viewed as a single, permanent event but as a process (Atchley 1982). Retirement transitions are diverse, lengthy and fuzzy, and can be marked by interruptions (Kohli and Rein 1991). A small body of work has explored retirement reversals, or "unretirement", commonly defined as a specific sort of bridge job in which individuals return to paid work following cessation of labour force participation at retirement (Beehr and Bennett 2015). Studying retirement reversals provides a fuller understanding of the late career as well as of potential inequalities occurring at this life stage. Much of our knowledge about unretirement originates from the United States (US), supplemented by studies scattered throughout Western Europe and from Canada. This literature examines unretirement using varying definitions and methodological approaches, making it difficult to compare studies. Nevertheless, a picture is emerging of the nature of unretirement and the processes driving it.

This paper contributes to that burgeoning literature by demonstrating the scale and nature of the phenomenon for women and men in the United Kingdom (UK) for the first time, as well as examining who is most likely to unretire. In particular, we ask whether unretirement is a strategy used by the financially precarious to raise their incomes, and, if not, what might be the implications of unretirement for income inequalities in later life in the UK.

Unretirement: What is known?

Unretirement jobs, like other bridge jobs, have been conceptualised as lying in the middle ground between employment and retirement (Hardy 1991). However, unretirement is distinctive in that there is a gap between jobs rather than a smooth transition from one job to

another. The gap might appear where individuals have to change employers in order to comply with occupational pension or early retirement rules, because they were otherwise unable to reduce their hours, or because they experienced involuntary retirement (BIC, ILC-UK and PRIME 2014; Kanabar 2015). Those who unretire may have been unable or did not wish to coordinate ending one job with immediately starting the next, but did subsequently return to paid work. People can retire both before and after the state pension age in any particular context; similarly, unretirement is not limited to taking place after the age of eligibility for state pensions.

Rates of unretirement

Returns to work following retirement are common, at least in the US where most research has taken place (Pettersson 2014). A recent estimate found that at least 26 per cent of American retirees subsequently unretired over a six year period since retiring (Maestas 2010). However, study designs in the few European countries where unretirement has been studied (largely Denmark, the Netherlands, Sweden and the UK) are so diverse that it is not possible to compare unretirement rates.

Concerning the UK, a study of ill-health retirement from the National Health Service reported that 13% of retired employees had taken up paid work within one year (Pattani, Constantinovici and Williams 2004). However, this study is of a highly specific population and is not generalisable to the UK population as a whole. Another study of men living in England, using the English Longitudinal Study of Ageing, reported a very low unretirement rate of 5% (Kanabar 2015). However, rather than using an inflow sample, in which people are followed from the moment they enter the retired state, this study employed a stock sample of currently retired people with retrospectively reported retirement dates and determined the proportion of the sample which exhibited unretirement behaviour. There is currently no

evidence concerning the frequency of unretirement for the UK as a whole, or for women. Therefore our first research question is: *How common is unretirement among retired men and women in the UK?*

Predictors of unretirement

In studies from North America and Europe, individuals consistently report diverse motivations for post-retirement employment. Respondents frequently indicate that improving their finances is a primary or important motivation for unretiring (Hardy 1991; Pattani, Constantinovici and Williams 2004; Schellenberg, Turcotte and Ram 2005). In addition financial difficulties/problems are also critical, as is the loss of social contact or daily rhythm upon retiring from paid work (Jonsson and Andersson 1999; Jonsson, Josephsson and Kielhofner 2000). Lifestyle factors are also often mentioned by unretiring individuals , such as not enjoying retirement, appreciating the intrinsic aspects of work, and having been asked by others to help out (Pattani, Constantinovici and Williams 2004; Schellenberg, Turcotte and Ram 2005). In terms of role enhancement theory, which takes the perspective that individuals experience benefits by holding multiple social roles, unretiring may enable individuals to maintain a rewarding work role (Sieber 1974). Retirement reversals are less frequent in the US among individuals who have secure health insurance, have reached the eligibility age for full social security benefits, or have an employment pension (Congdon-Hohman 2009; Kail 2012; Kail and Warner 2013; Lin 2005; Pleau 2010).

Unretirement may represent a means for older people on small pensions, perhaps as a result of interrupted work histories, to achieve a decent income in old age. However, although people often cite financial motivations for unretiring, the evidence from available North American and European studies, including the UK, concerning whether retirees with poorer finances are actually more likely to unretire is equivocal (Fasbender, Wang, Voltmer and

Deller 2016; Han and Moen 1999; Kanabar 2015; Larsen and Pedersen 2013; Maestas 2010; McDonald 1997; Meghir and Whitehouse 1997). One reason for inconsistencies may be that the category of those who remain retired contains two contrasting groups: individuals who wish to remain retired and those who sought but failed to find post-retirement employment. Hardy (1991) distinguished these two groups in a study set in Florida, observing that individuals who had wanted to but had been unable to return to work were in a worse financial position than retirees who did not wish to unretire.

Having poorer finances in later life is associated with certain characteristics, such as lower educational qualifications or poor physical health, that make finding a suitable new job more difficult (Larsen and Pedersen 2013; Pettersson 2014). This may explain why a study examining unretirement in male participants from the English Longitudinal Study of Ageing found no relationship between having an inadequate income and unretiring (Kanabar 2015). Although not looking at unretirement per se, another English study found that those in the lowest wealth quintile were least likely to be in paid work after age 65, an effect which disappeared after controlling for factors which included education and health (Lain 2015). This result suggests that the poor health and low education levels of those with least wealth may be obstacles to finding paid work in later life. Higher aggregate unemployment has been associated with lower unretirement rates in British men (Meghir and Whitehouse 1997), which is not surprising in light of the known obstacles facing British older people seeking paid work, such as age discrimination, caring responsibilities or poor physical health (BIC, ILC-UK and PRIME 2014). In addition, if retirees expect to receive only low earnings from their labour, paid work may not be such an attractive prospect, and individuals may prefer to pay the financial penalty of not working rather than experience the constraints of low paid work (Loretto and Vickerstaff 2013; Meghir and Whitehouse 1997).

Factors affecting individuals' possibilities of finding post-retirement employment are often those which affect whether they are able to find paid work throughout their lives (Hardy 1991). Studies from North America and several European countries including Denmark, Sweden and the UK have found consistent relationships between participants' unretirement behaviour and their gender, age, education level and health status (Cahill, Giandrea and Quinn 2015; Fasbender, Wang, Voltmer and Deller 2016; Griffin and Hesketh 2008; Han and Moen 1999; Kail and Warner 2013; Larsen and Pedersen 2013; Lin 2005; McDonald 1997; Pettersson 2014; Pleau 2010; Warner, Hayward and Hardy 2010). Specifically, men are more likely to unretire than women, as are individuals who retired at younger ages, are in better health and have more qualifications. Similar results were obtained in the very few UK studies of unretirement; however, the results of one were based on a sample of former national healthcare employees (Pattani, Constantinovici and Williams 2004)—and, thus, are not generalisable—and the other two studies only included men (Kanabar 2015; Meghir and Whitehouse 1997).

Concerning non-financial factors, providing informal care to an elderly, ill or disabled person may be a barrier to taking up paid work following retirement. One possible mechanism might be *role strain*, in which individuals' overall role obligations from combining informal caregiving and paid work are perceived as too onerous, (Goode 1960). Another might be *lack of bridging/linking social capital* necessary to learn about job opportunities as a result of caregiving limiting individuals to a smaller range of close social contacts (Gonzales and Nowell 2016). Using US data, Pleau (2010) did not find evidence of competing effects of informal caregiving on rates of return to work following retirement, while Dingemans (2016) only found associations in men of caregiving with lower unretirement rates in analyses using data from The Survey of Health, Ageing and Retirement in Europe. Another non-financial factor is that spouses may wish to coordinate their activities. The decision to unretire is not

necessarily taken at an individual level (Loretto and Vickerstaff 2013): the retired are more likely to take up paid work if their partners are in continuous employment or recently began working (Chandler and Tetlow 2014; Hayward, Hardy and Liu 1994; Kanabar 2015).

In summary, little is known about the factors which predict unretirement in the UK and, in particular, whether individuals with poor finances are more or less likely to unretire. While one motivation for unretirement behaviour may be financial need, it is possible that those individuals who are most concerned about their finances are not able to find paid work. Since poorer incomes in later life are associated with lower educational qualifications and ill health over the life course, it is plausible that employment barriers are substantial for those in greatest need of a job (Scherger 2015). We anticipate that advantaged retirees will be more likely to reverse their retirement, specifically those who are more qualified and in better health, those with higher pre-retirement earnings and with better subjective finances. Consequently, our research also asks: *Which factors predict retirement reversals in the UK? In particular, are more advantaged retirees more likely to reverse their retirement?*

Gender and unretirement

Not only do women unretire less often than men (Maestas 2010), the factors affecting unretirement may be gendered in that they affect women's and men's unretirement behaviour differently. Concerning marital status, studies in the US and Denmark suggest that women are more likely to unretire if they are unmarried (Larsen and Pedersen 2013; Lin 2005; Pleau 2010). This may be related to economic necessity, particularly for those who divorced or separated at older ages (Hardy 1991; Pleau 2010).

The impacts of financial factors may also be gendered. Studies in the US and Canada found that high earning women were more likely to unretire, even though this was not the case for men (McDonald 1997; Pleau 2010). The issue of low earnings from jobs may be

particularly pertinent for women: US research has shown that men are more likely to take up full-time post-retirement jobs and women part-time post-retirement jobs, reproducing patterns from earlier in life (Kail and Warner 2013). The associated lower wages from part-time working may reduce the incentive for women to unretire, especially those who received low salaries in their last job, and a more attractive option for partnered women may be to rely on pension benefits derived from a spouse (Finch 2014).

To our knowledge, there are no studies examining gender differences in unretirement in the UK. However, variations in unretirement rates are likely, partly as a result of gendered differences in pension provision in later life. For example, a British study showed that, while there was no difference according to marital status for men, never-married women were more likely than their married or formerly-married counterparts to have an occupational or personal pension in addition to the state pension (Arber and Ginn 2004). This difference was partially explained by fewer years spent in the labour market on the part of married/formerly married women, most likely a result of family constraints on their labour market activities. Therefore, our last research question is: *Do individual characteristics, particularly marital status and financial adequacy, affect men's and women's unretirement behaviour differently?*

The UK context

Most research into unretirement has taken place in the US and continental European countries. However, the UK has a distinctive social policy, legislative and labour market setting that may generate specificities in both the frequency and nature of unretirement (Loretto and Vickerstaff 2013). Here we outline aspects of the UK context relevant to the period under study of 1991–2015 and the generations born during 1920–1959.

Until 2010, the state pension age in the UK was 60 years for women and 65 years for men. Pensions Acts in 1995 and 2011 have aimed to gradually equivalise women's pension

ages to those of men's and to advance pension ages for both genders, but these changes only affect generations born since 1949 (cf. Loretto and Vickerstaff 2013). Many Britons additionally have occupational pensions and/or private pensions, which are highly diverse in their rules and often allowed members to retire and claim their pensions when they were still in their fifties (Meghir and Whitehouse 1997; Thurley 2011). Concerning rights to combine paid work with pensions, since 1989, all those above state pension age have had the possibility of working and simultaneously receiving a full state pension, while being taxed on the total income at a rate similar to that of the general working age population (Disney and Smith 2002; Whitehouse 1990). It is only since 2006, however, that those who are eligible have been able to claim occupational pensions whilst still working for the sponsoring employer (Taylor 2008). Prior to that, people had to retire in order to claim their occupational pension, even if they had reached pensionable age.

Age discrimination legislation in the UK is weak, which affects possibilities for older workers to remain in and find paid work. For most of the period under study almost all legislated employment protections ceased after age 65 (Lain 2011), although recent age discrimination legislation passed in 2006 and strengthened in 2011 now protects British workers against mandatory retirement ages (Lain 2015).

Levels of joblessness among Britons aged between 50 and state pension age are relatively high in comparison with other age groups; moreover, unemployment rates in this age group increased during economic downturns in the early 1990s and late 2000s (BIC, ILC-UK and PRIME 2014). Much joblessness is involuntary: one quarter of jobless older workers would like to have paid work. For those in jobs, overemployment, in which employees preferring to work shorter hours are unable to do so, is reported by nearly 40% of those in their late fifties (BIC, ILC-UK and PRIME 2014). Without flexibility to reduce their working

hours, overemployed individuals may retire from work altogether, even though their preference would be to work part-time.

In short, much about the British context—particularly the possibilities for combining paid work with state and occupational pensions—may encourage unretirement. In addition, individuals unable to reduce their hours who subsequently retired from full-time jobs may be open to seeking part-time opportunities elsewhere. However, difficulties in finding work faced by older jobseekers in the UK, exacerbated by the weakness of age discrimination legislation, are likely to depress unretirement rates and limit possibilities for unretirement to the most employable.

Approach taken in this study

Employing an event analytic approach, our study describes the frequency of retirement reversals and how long participants take to unretire. Using a range of indicators which have been found to be important in previous studies, we explore the correlates of unretirement, paying particular attention to gender and financial adequacy.

The definition of unretirement used in our study depends on self-declarations of retirement status, which allows it to be distinguished, as far as possible, from disability and unemployment. With this approach, we aim to assess transitions into and out of retirement that have social meaning for the individual, rather than simply measuring labour market churning or periods of unemployment or inactivity (O'Rand and Henretta 1999: 116). Maestas (2010) has argued that declarations of retiring coincide with behaviours that mark retirement as a major lifecycle event such as pension claiming, with the proviso that these self-evaluations may also track changes in how participants perceive their activities as well as actual changes in behaviour (Hayward, Hardy and Liu 1994).

Methods

Data

This study uses data from all waves of the British Household Panel Survey (BHPS), a multidisciplinary, longitudinal study of individuals living in private households in the United Kingdom which began in 1991 (University of Essex. Institute for Social and Economic Research and National Centre for Social Research 2010). In 2009, BHPS participants were recruited into wave 2 of a larger household panel called Understanding Society and have been followed up to wave 6, which is the most recent data release (University of Essex. Institute for Social and Economic Research, NatCen Social Research and Kantar Public 2016). Therefore, our study encompasses the period 1991–2015.

Participants were eligible for inclusion in the sample if they: 1) reported being in paid work for at least one wave after age 40; 2) subsequently retired between the ages of 50 and 69 years; and 3) gave information on their labour market status for at least one wave following the wave in which they retired. Therefore, participants included in the analysis provided at least three waves of data, but these did not have to be consecutive waves. We included men and women born between 1920 and 1959 since these cohorts were in their late fifties and/or sixties during part of the period under study. A total of 2394 participants fulfilled these criteria; of these, 2046 participants with complete information on covariates made up the main study sample.

Variables

Unretirement

Following Maestas (2010), we define unretirement as a partial or full reversal of the retirement transition using participants' self-reports of their labour market status and hours spent in paid work in a normal week. Participants were asked which economic activity best described their "current situation" from: self-employed, in paid employment (full or part-time), unemployed, retired from paid work altogether, on maternity leave, looking after the family or home, full-time student/at school, long-term sick or disabled, on a government training scheme or something else. Participants were classified as being in paid work if they reported self-employment or employment at the time of the survey. Those who worked for pay in the week preceding the interview or were temporarily away from their jobs were asked to indicate the number of hours they were expected to work in a normal week, excluding overtime and meal breaks. Participants who did not describe themselves as working full-time but indicated hours of work corresponding to 30 hours per week or more were reclassified as full-time workers.

Participants were designated as being fully retired if they reported being "retired from paid work altogether" as their current situation and did not declare any hours of paid work in a typical week. Partial retirement, in contrast, was defined as reporting being retired and simultaneously working for less than 30 hours of paid work in a normal week.

We operationalise unretirement as an event that takes place if a participant: 1) reported being fully retired and recommenced full-time or part-time paid employment in a subsequent wave; or 2) began full-time work following partial retirement in a previous wave (Maestas 2010).

Covariates

The *year of unretirement* was recorded, in order to control for period effects in the fully-adjusted models, since prior research has shown that higher unemployment rates are associated with lower unretirement rates, presumably by making jobs more difficult to find (Hayward, Hardy and Liu 1994; Meghir and Whitehouse 1997). Participants reported their year of birth, which was used to calculate their *age-group at retirement* as well as their *birth decade*. The highest *academic educational level* that participants ever reported achieving was reclassified into five categories corresponding to: no academic qualifications; A-Level or equivalent post-16 qualification; O-Level, GCSE or equivalent; CSE or qualifications below GCSE; and post-secondary academic qualifications (reference category).

Since research from the US has found that unretirement often appears to be planned when in the pre-retirement job (Maestas 2010), we used information from participants' final year in work for covariates indicating participants' state of finances, health, marital status, and informal caregiving. If this information was missing, data were imputed from the next most recent available year in paid work. We used four measures of finances. An equivalised measure of net *household income* was generated using the square root of household size as the equivalence scale (Levy and Jenkins 2012; OECD n.d.). Quintiles were generated for this variable at each survey wave, a procedure which adjusts for wave-to-wave inflation. *Subjective financial status* was measured by a question about difficulty in getting by; the variable was dichotomised into: 1) living comfortably or doing alright (reference category), and 2) just getting by or finding it difficult or very difficult. *Housing tenure* was recoded into three categories: owned outright (reference category), owned with a mortgage, and rented (whether from the local authority, privately or from a housing association). Participants indicated whether they were a member of an *occupational pension scheme*. Because participants may have been working in bridge jobs in their late career, records of having an

occupational pension in a previous job from age 45 were examined, and people reporting such pensions earlier were included in the category "membership of an occupational pension from a current or previous employer". *Self-rated health* was reported in five categories in both surveys; however, Understanding Society and the 1999 wave of BHPS used different response categories to the other waves of BHPS. In order to harmonise the surveys, responses were dichotomised into: 1. excellent, very good or good health (reference category) or 2. fair, poor or very poor health. Whether the *spouse or partner was in work* was recorded in a five-category variable: married, spouse not in paid work (reference category); married, spouse in paid work; never married; divorced/separated; widowed. Participants indicated whether they were *providing informal caregiving*, whether within or outside the household, and the number of hours provided. This information was used to create a dichotomised variable of providing care for at least 20 hours per week, and providing less or no care.

Analytic plan

Following descriptive analyses, survival analysis of time to unretirement was performed. The survival analysis was carried out using Cox modelling in Stata 14.1. Because time is recorded annually, a process which generates ties, we used the Efron method for tied failures (Cleves, Gould, Gutierrez and Marchenko 2010: 151).

In survival analytic approaches, also called event-history or duration analysis, time to unretirement for each individual is calculated from the beginning of the risk period, in our case starting from the first year that an individual was recorded as transitioning from paid work into retirement. For some individuals it was not possible to observe their transition into retirement, because they were already retired at the first time point they were observed. Prior research from the US and the Netherlands has shown that unretirement usually takes place rapidly following retirement if it takes place at all (Hayward, Hardy and Liu 1994; Kail and

Warner 2013; Pleau 2010; Schuring, Robroek, Otten, Arts and Burdorf 2013). Since the rate of unretiring is greatest soon after retiring, and unretirement can be followed by re-retirement, studies examining transition rates back into employment for individuals who have been retired for an unspecified, and possibly lengthy, period of time, will miss such unretirement transitions and report depressed unretirement rates. Following recommendations to eliminate such left-censoring (events occurring before follow-up begins) through appropriate study design (Singer and Willett 2003: 319–20), retired individuals were set aside from the analysis if a transition from paid work into retirement was not observed (see the data section, above). It is possible that certain individuals experience more than one retirement and unretirement event. Consequently, the first time that an individual was observed to retire was used, with the proviso that earlier retirement (and unretirement) events may not have taken place within the observation window.

Survival analysis has the advantage of handling noninformative right-censoring: when a participant was not observed for long enough for an unretirement event to be observed for reasons such as random loss to follow-up. Consequently, it is possible to include participants in the analysis who were followed for different lengths of time, as long as they were followed for at least one year after the paid work–retirement transition.

Results show how prevalent retirement reversals were among men and women, at what age they occurred, and the shape of the hazard of unretirement. Subsequent analyses indicate the effects of predictors of unretirement transitions. Unadjusted and fully-adjusted results for each of the socio-economic, health and demographic factors are presented. Because the period modelled extends to over two decades, non-linear period effects which could confound the analysis were added as power terms in the fully-adjusted models.

Two sensitivity analyses were performed. Listwise deletion was used in the main analysis, a procedure which can generate bias if the data are not missing completely at random. Therefore the first sensitivity analysis consisted of repeating the analyses described above in Mplus 7 using discrete time estimation with full information maximum likelihood estimation (Appendix 1). This approach uses all available data and requires the less restrictive assumption that the data are missing at random (Muthén and Muthén 2012). In case of differences in the effects of covariates on unretirement between men and women, interactions between gender and the potential predictors were examined in a second sensitivity analysis.

Results

Descriptive results

For these cohorts born between 1920 and 1959, for whom a transition from paid work into retirement was observed, the sample median retirement age was 62 years. Men had a modal retirement age of 66 years, one year over the age of men's eligibility for the state pension (Figure 1), and a median retirement age of 63 years. The modal retirement age for women was 60 years, but women in this sample had a median retirement age of 61 years, later than the state pension age for most of the sample of 60 years.

Almost half of the sample had no academic qualifications (Table 1). In terms of their subjective financial situation, 75 per cent reported that they were "living comfortably" or "doing alright". While 59 per cent were mortgage-free home-owners, 27 per cent had a mortgage and 14 per cent were renting their home. Just over half were current or previous members of an occupational pension scheme, and most reported good or better health. About 80 per cent were partnered, with similar numbers having a working as non-working spouse. About 5% of participants were providing informal care for at least 20 hours per week.

[Table 1 and Figure 1 about here.]

In total, 398 people were observed to reverse their retirement (215 men and 183 women). Around 9 per cent of retirees unretired within the first year of retiring and, after around 15 years of follow-up, the cumulative proportion who reversed their retirement was about 0.26 (Figure 2). The mean time to unretirement was 2.4 years and the hazard of experiencing a retirement reversal decreased rapidly over time, with few reversals after 8 years and none observed after 15.

[Figure 2 about here.]

The median unretirement age was slightly higher than retirement age at 63 years (64 years for men and 63 years for women, Figure 1). Most retirement reversals among women took place after their state pension age.

Predictors of unretirement

Unadjusted and fully-adjusted results from Cox modelling of time to unretirement are reported in Table 2. Men were 27 per cent more likely to return to paid work following retirement than women. After adjustment for the other covariates including measures of financial adequacy, education level, health, marital status and informal caregiving, the gender gap remained, indicating that these covariates do not account for the gender difference. Compared to those born 1940–1949, those born in the subsequent decade were 50% more likely to unretire. Since this association remained the same size after adjustment for other covariates including retirement age (HR=1.52, p=0.044), it suggests the possibility of a cohort effect.

[Table 2 about here.]

There was a graded relationship between educational level and the hazard of unretirement in both the unadjusted and fully adjusted models. Specifically, participants without any qualifications were about 50 per cent less likely to unretire than participants with post-secondary level qualifications, even after controlling for income and subjective financial situation.

Turning to financial factors, perceptions of financial situation were not associated with variations in rates of return to work. Marginally significant differences suggest that those in the highest net equivalised income quintile were more likely to unretire compared to those in the lowest quintile (HR: 1.38, p=0.056), an association which disappeared after full adjustment. However, housing tenure remained associated with unretirement even in the fully adjusted model, suggesting a role for financial necessity. For instance, those with mortgaged dwellings were 50 per cent more likely to unretire, compared to participants who owned their homes outright. In the fully adjusted model only, renters were more likely to unretire than homeowners (HR: 1.40, p=0.041). Those who were not members of occupational pension schemes had lower unretirement rates than members (HR: 0.82, p=0.049), an association which was absent from the fully adjusted model.

Individuals in excellent or good health were around 25 per cent more likely to return to paid work than those reporting fair, poor or very poor health. Compared to those with a partner not in paid work, participants whose partner worked or who had never married were more likely to unretire. Finally, provision of informal care for at least 20 hours per week was not associated with unretirement in either the unadjusted or fully adjusted models.

The first sensitivity analysis which employed full information maximum likelihood estimation in Mplus in order to use all available data (N=2394) generated similar results

(Appendix 1). In the second sensitivity analysis, no interactions between gender and each of the covariates were significant at the 95 per cent significance level (results not shown).

Discussion

This is the first study to examine unretirement in a general population sample from the UK and, as such, it contributes to a growing body of research examining the nature of labour force participation in later life. Employing survival analysis we were able to show that retirement is not necessarily a stable state in the UK; to the contrary, a cumulative proportion of around one-quarter of participants in this general population sample who were observed retiring from paid work subsequently reversed their full or partial retirement over the next 15 years. Our approach shows the development of the hazard of unretirement in terms of time since retirement. We found that unretirement rates were highest among the recently retired, and declined over time to become inconsequential within 10 years of leaving the labour force.

The rate of unretirement reported in the current paper—around 9 per cent unretiring after one year (cf. Figure 2)—lies in the middle of values obtained from previous studies. It is below the 13 per cent reported by Pattani et al. (2004) in their one-year follow-up study of employees taking early ill-health retirement from the British National Health Service. However, the rate we found is higher than the figures observed by Kanabar (2015) in a general population sample. Differences may be due to the fact that Kanabar used biennial data to examine unretirement among individuals who often had been retired or inactive for some time and retrospectively reported retirement dates. However, as we and others have found, unretirement tends to take place quickly following retirement, if it takes place at all (Hayward, Hardy and Liu 1994; Kail and Warner 2013; Pleau 2010; Schuring, Robroek, Otten, Arts and Burdorf 2013). Thus, studies which do not follow individuals from the

moment of retirement are likely to underestimate unretirement rates as a result of left-censoring or briefer unretirement spells not being retrospectively reported.

Retirement reversals occurred both before and after the state pension age for men and women (cf. Figure 1). This implies that future research which examines unretirement should not limit analyses to participants who have already reached state pension age. Retirement can take place earlier, particularly since occupational and private pensions may have other conditions of eligibility, or jobless individuals in late career may be forced into retirement because of difficulties in finding another job (Loretto and Vickerstaff 2013).

Unretirement was more common among certain groups of retirees. Specifically, men were 25 per cent more likely to unretire than women, those with no qualifications were almost 50 per cent less likely to unretire than those with post-secondary qualifications, and participants in excellent or good health were around 25 per cent more likely to unretire than those reporting fair, poor or very poor health. These results are in line with previous research from Canada, the US, Denmark, Germany, the Netherlands and Sweden (Fasbender, Wang, Voltmer and Deller 2016; Larsen and Pedersen 2013; McDonald 1997; Pleau 2010; Schellenberg, Turcotte and Ram 2005; Schuring, Robroek, Otten, Arts and Burdorf 2013), and those concerning qualifications and health correspond to previous work on British men (Kanabar 2015; Meghir and Whitehouse 1997).

Most financial factors, whether perceptions of financial situation, household income or having an occupational pension, were not associated with unretirement at the 95% significance level. This result is consistent with previous research from England, Germany and the US (Fasbender, Wang, Voltmer and Deller 2016; Kanabar 2015; Maestas 2010). Our null result may reflect countervailing tendencies of a stronger desire for paid work and greater difficulty finding it (sufficiently well-paid) for those facing financial hardship. Some support

for this interpretation comes from our observation that participants who held a mortgage on their homes were over 50% more likely to unretire than those who owned their homes outright. Mortgage-holders have an additional substantial outgoing compared to home-owners, which suggests the importance of financial factors. The life-cycle hypothesis of savings and consumption developed by Modigliani and colleagues argues that people begin to run down lifetime accumulated assets at retirement (Jappelli and Modigliani 2005). From this standpoint, unretirement behaviour can be viewed as a way to reduce the rate of decumulation at retirement and smooth consumption patterns, particularly, as shown here, in the face of requirements to maintain mortgage payments (Lahey, Kim and Newman 2006).

The study also explored the importance of several non-financial factors upon unretirement behaviour. Individuals whose spouse was employed were more likely to unretire, compared to those whose partner was not in the labour force, suggesting that lifestyle considerations, such as coordination of retirement timing between spouses, may be important (Dahl, Nilsen and Vaage 2003). However, providing informal care for at least 20 hours per week was not associated with unretirement, confirming findings reported by Pleau (2010).

The finding that men were 25 per cent more likely to unretire than women was robust to adjustment for a range of covariates relating to demographic characteristics, financial need and health. Furthermore, we did not discern gender differences in the associations between unretirement and any of the covariates by including interactions. It is possible that this aspect of the analysis is under-powered (i.e., insufficient sample size), or that gendered unretirement is related to factors not included in the model (Hardy 1991). Women's lower rates of unretirement may be indicative of a weak attachment to the labour force that begins during the child-bearing and child-rearing years and extends into old age—at least, for these cohorts of women (Hardy 1991; Scherger 2015). These results warrant further investigation in a larger survey, such as Understanding Society, once more waves of data are collected. Important

factors to consider in investigating gender differences in retirement rates include age discrimination, part-time working, caring responsibilities, work-family conflict, and earnings.

Limitations

Despite the large size of the BHPS sample, the requirement for a transition into retirement to be observed limited the numbers of eligible participants. In order to maximise the sample size, the effects are averaged over more than 20 years, a period that saw changes in individuals' labour market prospects, pension legislation and payments. The sample size may have also limited the possibility of discerning small effects of covariates or those which were important over only part of the period under study.

There is a possibility that the complete case results were affected by non-random attrition and non-response. However, our sensitivity analysis using full information maximum likelihood (FIML) estimation to obtain estimates for individuals with missing predictors, based on the assumption that the data were missing at random, yielded results close to those obtained from the complete case analyses which require the more restrictive assumption that the data are missing completely at random (Appendix 1).

This analysis used time-invariant covariates from the last observed year in paid work before retiring. However, as has been argued by Congdon-Hohman (2009), it is likely that these covariates may change following retirement. This may especially the case for health (Westerlund, Kivimäki, Singh-Manoux, Melchior, Ferrie, Pentti, Jokela, Leineweber, Goldberg, Zins and Vahtera 2009; Westerlund, Vahtera, Ferrie, Singh-Manoux, Pentti, Melchior, Leineweber, Jokela, Siegrist, Goldberg, Zins and Kivimäki 2010) and income, both of which decline with age.. Incorporating these time-varying elements in our analysis of unretirement would have enabled us to explore the degree to which unretirement is planned while still in paid work or is a response to shocks (Maestas 2010).

Finally, we cannot be wholly confident of the generalisability of our results to the UK population as a whole because it was not possible to develop appropriate weights with these data for this analysis. In addition, because this study was restricted to participants with a record of employment or self-employment from age 40 onwards, those who transitioned into retirement from unemployment or family care were not included. This limitation is particularly pertinent in the case of women, who have lower participation in paid work in the late career than men (Corna, Platts, Worts, Price, McDonough, Sacker, Di Gessa and Glaser 2016).

Future research

Apart from one study of English men (Kanabar 2015) which examined the characteristics of unretirement jobs, little research has explored the nature of paid work following retirement in the UK. Largely unexplored questions concern how long unretired people stay in paid work before re-retiring; what sorts of jobs they do and how earnings from these jobs compare with pre-retirement work. Specifically, are unretirement jobs of poor quality and low-paying? If so, are these terms acceptable to retirees because they are supplemented by a pension or because working resembles a paid hobby? Or do unretired workers have wages and working conditions resembling those of younger workers?

Other activities may demand the time of retirees, such as volunteering and the provision of formal care. They may compete with or complement paid work (Carr and Kail 2013; Griffin and Hesketh 2008). Related to this, an important issue in post-retirement labour market research is the extent to which individuals who wish to unretire are able to do so (Macnicol 2015; Moffatt and Heaven 2016). How much choice and control over reversing their retirement do people have? An additional emerging avenue in the unretirement literature is the extent to which individuals' bonding or bridging social capital assists them in finding

post-retirement jobs, and whether having high levels of social capital might compensate for low human capital (Gonzales and Nowell 2016).

Policy implications

One implication of our results is that recently retired people, aged both above and below the state pension age, represent a pool of potential labour, if the right opportunity presents itself. They are a group that should not be forgotten by policies aiming to maintain older people in work (Business in the Community, International Longevity Centre and The Prince's Initiative for Mature Enterprise 2015: 9–10; Eurofound 2012). Although the influence of particular policies could not be tested, the results presented in this paper suggest that policies that protect older employees against age discrimination and tackle overemployment (having to work more hours than desired by the employee) by encouraging more flexible working may raise the employment rates of older people both before and after state pension age, by improving their labour market opportunities.

Knowing the determinants of unretirement is helpful in order to understand if and how social policies might alter unretirement rates and inequalities related to unretirement. Specifically, the results presented here demonstrate the importance of maintaining individuals' human capital (in terms of skills and health) throughout their working lives. Relevant initiatives might include enhancing workers' access to training, promoting safer workplaces and supporting occupational health.

Evidence presented in this paper has shown the paradoxical role of household finances in unretirement decisions. Financial difficulties, per se, are not sufficient to act as a driver for retirement reversals. Should reliance on earned income in later life increase, new inequalities in later life could be generated between those who find suitable work and those who do not. It has been suggested that unretirement might help boost incomes in retirement and reduce

pensioner poverty (Kanabar 2015). We suggest that unretirement has a tendency to enable those who are already well-favoured to further improve their incomes, whereas those less favoured remain disadvantaged, potentially exacerbating income inequalities in later life.

Conclusion

These results demonstrate that unretirement is a common feature of retirement processes in the UK, and is likely to be an important strategy people use to manage late working life. However, the evidence that people with more human capital have a higher likelihood of unretiring, rather than those in financial difficulties, suggests that hopes that retirement reversals might be a strategy which enables older people in poorer financial situations to raise their incomes are possibly misplaced. Instead, possibilities to supplement savings or retirement income in later life through unretirement are available to a greater extent to the already advantaged.

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Tables

Table 1: Description of the sample participants, N=2046

Covariates	*N*	%
Gender		
Male	973	47.6
Female	1073	52.4
Birth decade		
1920–1929	106	5.2
1930–1939	629	30.7
1940–1949	1090	53.3
1950–1959	221	10.8
Age at retirement		
50–59 years	522	25.5
60–65 years	1197	58.5
66–69 years	327	16.0
Academic qualifications		
Post-secondary academic qualification(s)	417	20.4
A-Level	261	12.8
O-Level, GCSE	435	21.3
CSE or qualifications below GCSE	37	1.8
No academic qualifications	896	43.8
Subjective financial situation		
Living comfortably/doing alright	1539	75.2
Just getting by/finding it difficult/finding it very difficult	507	24.8
Equivalised net household income quintiles		
First (lowest)	271	13.3
Second	339	16.6
Third	426	20.8
Fourth	437	21.4
Fifth (highest)	573	28.0
Housing tenure		
Owned outright	1195	58.4
Owned with a mortgage	556	27.2
Rented (local authority, private landlord, etc.)	295	14.4
Current or previous occupational pension		
Membership of an occupational pension scheme	1158	56.6
Not a member of an occupational pension scheme	888	43.4

Health		
Excellent, very good or good	1431	69.9
Fair, poor or very poor	615	30.1
Spousal situation		
Partnered, partner not in paid work	793	38.8
Partnered, partner in paid work	849	41.5
Never married	101	4.9
Divorced/separated	184	9.0
Widowed	119	5.8
Informal caregiving		
None or less than 20 hours per week	1941	94.9
Caring at least 20 hours per week	105	5.1
Total	2046	100.0

Note: Data from waves 1–18 of the British Household Panel Survey, with participants followed into waves 2–6 of Understanding Society. Authors' calculations.

Table 2: Unadjusted and mutually adjusted models of unretirement in relation to selected covariates, British Household Panel Survey/Understanding Society, N=2046

	Unadjusted estimates			Fully adjusted estimates*		
Covariates	Hazard ratio	p-value	95% CI	Hazard ratio	p-value	95% CI
Gender						
Male (reference)	1.00	–	–	1.00	–	–
Female	0.73	0.002	(0.60; 0.89)	0.74	0.004	(0.60; 0.91)
Decade of birth						
1920–1929	1.23	0.322	(0.81; 1.87)	1.12	0.747	(0.57; 2.19)
1930–1939	1.11	0.376	(0.89; 1.38)	0.93	0.681	(0.66; 1.31)
1940–1949 (reference)	1.00	–	–	1.00	–	–
1950–1959	1.53	0.009	(1.11; 2.11)	1.52	0.044	(1.01; 2.27)
Retirement age						
50–59 years (reference)	1.00	–	–	1.00	–	–
60–65 years	0.62	<0.001	(0.50; 0.77)	0.82	0.172	(0.61; 1.09)
66–69 years	0.68	0.016	(0.50; 0.93)	0.93	0.752	(0.59; 1.46)
Highest educational level						
Post-secondary academic qualification(s) (reference)	1.00	–	–	1.00	–	–
A-Level	0.82	0.222	(0.60; 1.13)	0.84	0.302	(0.61; 1.17)
O-Level, GCSE	0.61	0.001	(0.46; 0.82)	0.64	0.004	(0.48; 0.87)
CSE or qualifications below GCSE	0.65	0.301	(0.29; 1.47)	0.86	0.732	(0.38; 1.99)
No academic qualifications	0.51	<0.001	(0.40; 0.66)	0.52	<0.001	(0.39; 0.69)
Subjective financial situation						

Living comfortably/doing alright (reference)	1.00	–	–	1.00	–	–
Just getting by/finding it difficult/finding it very difficult	0.93	0.533	(0.74; 1.17)	1.10	0.456	(0.85; 1.43)
Equivalised net household income quintiles						
First (lowest) (reference)	1.00	–	–	1.00	–	–
Second	0.71	0.103	(0.47; 1.07)	0.71	0.117	(0.47; 1.09)
Third	1.00	0.987	(0.69; 1.44)	0.92	0.676	(0.63; 1.35)
Fourth	1.37	0.074	(0.97; 1.94)	1.21	0.318	(0.83; 1.78)
Fifth (highest)	1.38	0.056	(0.99; 1.93)	0.97	0.876	(0.65; 1.44)
Housing tenure						
Owned outright (reference)	1.00	–	–	1.00	–	–
Owned with mortgage	1.54	<0.001	(1.24; 1.91)	1.34	0.011	(1.07; 1.69)
Rented (local authority, private, etc.)	1.13	0.408	(0.84; 1.53)	1.40	0.041	(1.01; 1.95)
Occupational pension						
Member of an occupational pension scheme (reference)	1.00	–	–	1.00	–	–
Not a member of an occupational pension scheme	0.82	0.049	(0.67; 1.00)	1.04	0.720	(0.83; 1.32)
Health						
Excellent, very good or good (reference)	1.00	–	–	1.00	–	–
Fair, poor or very poor	0.77	0.027	(0.62; 0.97)	0.79	0.056	(0.62; 1.01)
Spouse						
Partnered: partner not in paid work (reference)	1.00	–	–	1.00	–	–
Partnered: partner in paid work	1.38	0.005	(1.10; 1.73)	1.26	0.061	(0.99; 1.60)
Unpartnered: never married	1.57	0.042	(1.02; 2.43)	1.54	0.054	(0.99; 2.39)
Unpartnered: divorced/separated	1.21	0.310	(0.84; 1.76)	1.26	0.247	(0.85; 1.85)
Unpartnered: widowed	1.16	0.506	(0.75; 1.81)	1.31	0.245	(0.83; 2.05)
Informal caregiving						

None or less than 20 hours per week	1.00	–	–	1.00	–	–
Caring at least 20 hours per week	0.76	0.271	(0.46; 1.24)	0.82	0.456	(0.50; 1.37)
	Unadjusted estimates			Fully adjusted estimates*		
Covariates	Hazard ratio	p-value	95% CI	Hazard ratio	p-value	95% CI
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1940–1949 (reference)	1.00	–	–	1.00	–	–
1950–1959	1.53	0.009	(1.11; 2.11)	1.52	0.044	(1.01; 2.27)
Retirement age						
50–59 years (reference)	1.00	–	–	1.00	–	–
60–65 years	0.62	<0.001	(0.50; 0.77)	0.82	0.172	(0.61; 1.09)
66–69 years	0.68	0.016	(0.50; 0.93)	0.93	0.752	(0.59; 1.46)
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Post-secondary academic qualification(s) (reference)	1.00	–	–	1.00	–	–
A-Level	0.82	0.222	(0.60; 1.13)	0.84	0.302	(0.61; 1.17)
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Subjective financial situation						
Living comfortably/doing alright (reference)	1.00	–	–	1.00	–	–
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Third	1.00	0.987	(0.69; 1.44)	0.92	0.676	(0.63; 1.35)
Fourth	1.37	0.074	(0.97; 1.94)	1.21	0.318	(0.83; 1.78)
Fifth (highest)	1.38	0.056	(0.99; 1.93)	0.97	0.876	(0.65; 1.44)
Housing tenure						
Owned outright (reference)	1.00	–	–	1.00	–	–
Owned with mortgage	1.54	<0.001	(1.24; 1.91)	1.34	0.011	(1.07; 1.69)
Rented (local authority, private, etc.)	1.13	0.408	(0.84; 1.53)	1.40	0.041	(1.01; 1.95)
Occupational pension						
Member of an occupational pension scheme (reference)	1.00	–	–	1.00	–	–
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Fair, poor or very poor	0.77	0.027	(0.62; 0.97)	0.79	0.056	(0.62; 1.01)
Spouse						
Partnered: partner not in paid work (reference)	1.00	–	–	1.00	–	–
Partnered: partner in paid work	1.38	0.005	(1.10; 1.73)	1.26	0.061	(0.99; 1.60)
Unpartnered: never married	1.57	0.042	(1.02; 2.43)	1.54	0.054	(0.99; 2.39)
Unpartnered: divorced/separated	1.21	0.310	(0.84; 1.76)	1.26	0.247	(0.85; 1.85)
Unpartnered: widowed	1.16	0.506	(0.75; 1.81)	1.31	0.245	(0.83; 2.05)
Informal caregiving						
None or less than 20 hours per week	1.00	–	–	1.00	–	–
Caring at least 20 hours per week	0.76	0.271	(0.46; 1.24)	0.82	0.456	(0.50; 1.37)

Note: * The fully adjusted estimates are additionally adjusted for period as a cubic function in order to account for non-linear period effects. Data from waves 1–18 of the British Household Panel Survey, with participants followed into waves 2–6 of Understanding Society. Authors' calculations.

Figures

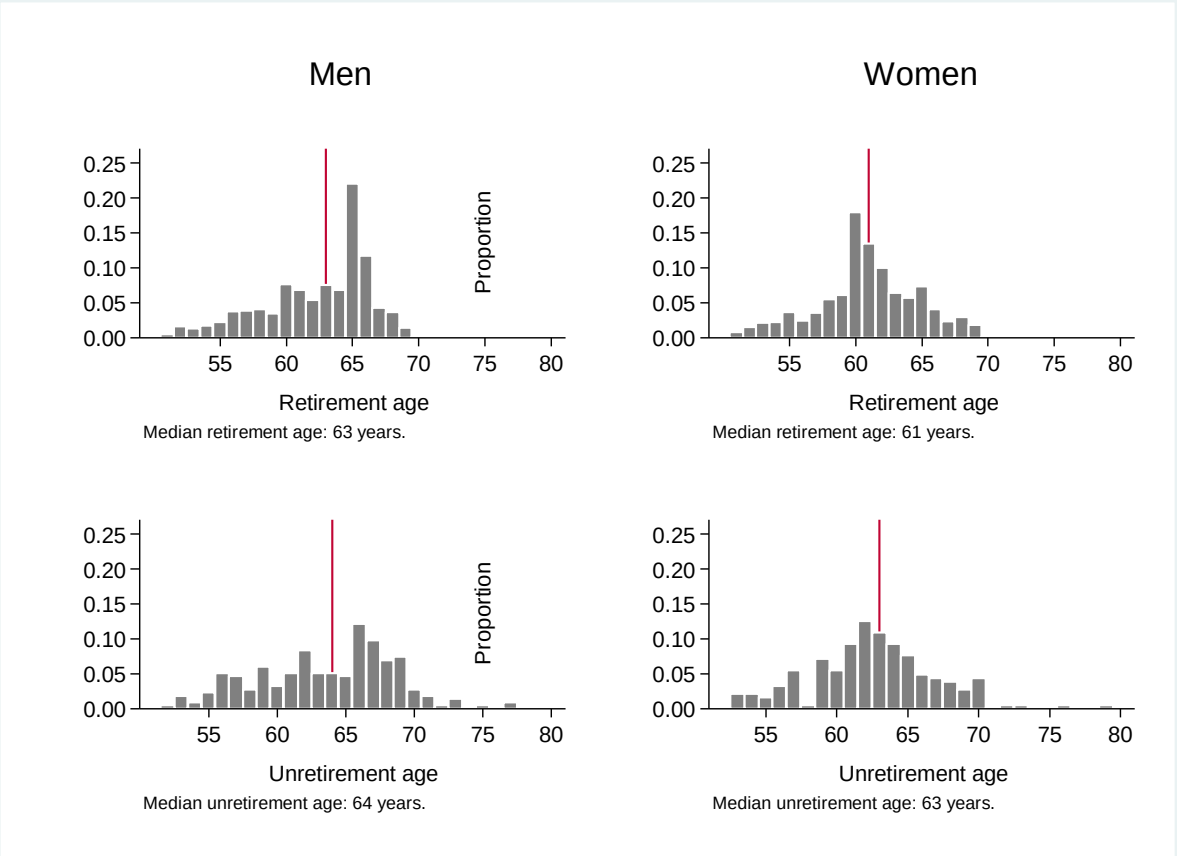

Figure 1: Distribution of ages of retirement and unretirement for British Household Panel Survey participants born 1920–1959

Note. The upper graphs display retirement ages for 973 male and 1073 female participants. The lower graphs display unretirement ages for those who reversed their retirement: 215 men and 183 women. Data from waves 1–18 of the British Household Panel Survey, with participants followed into waves 2–6 of Understanding Society. Authors' calculations.

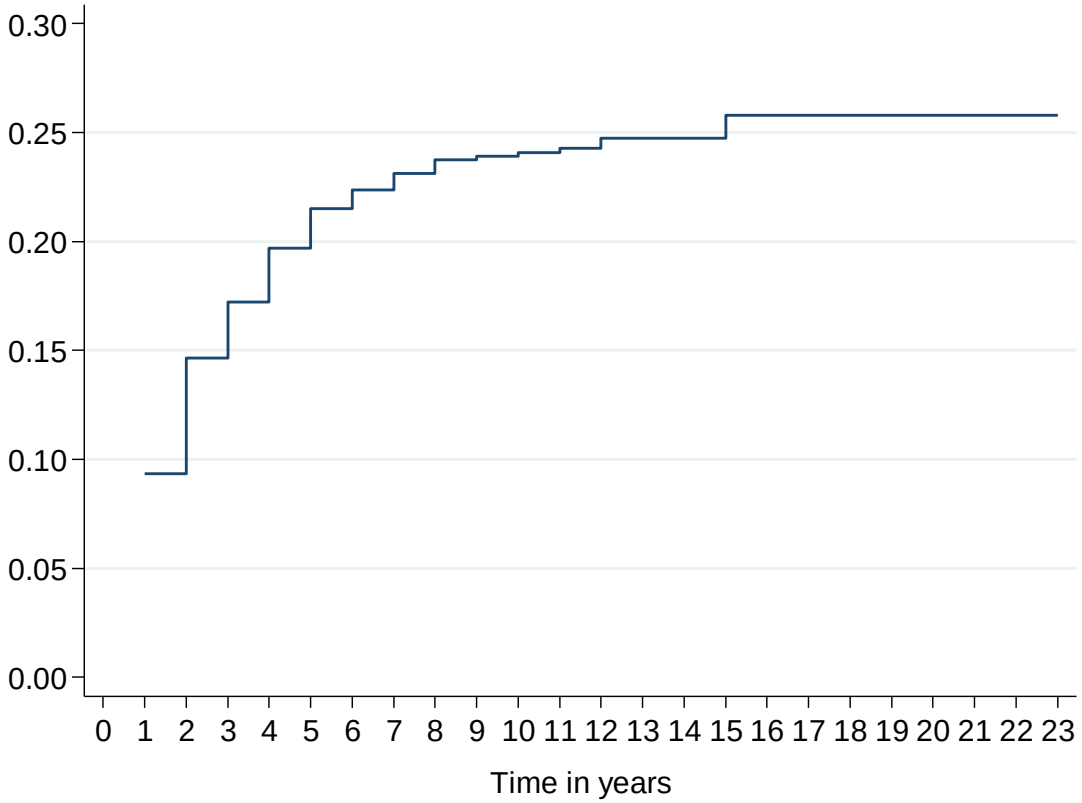

Figure 2: Nelson-Aalen cumulative hazard of unretirement for British Household Panel Survey participants born 1920–1959, *N*=2046

Note: Data from waves 1–18 of the British Household Panel Survey, with participants followed into waves 2–6 of Understanding Society. Authors' calculations.

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Declaration of contribution of authors

LG Platts conceived the manuscript in discussions with LM Corna, K Glaser and D Price. LG Platts prepared the variables in collaboration with D Worts and performed the analyses. All authors were consulted in preparing the variables. LG Platts drafted the manuscript. All authors commented on drafts and approved the final text.

Statement of conflict of interest

The authors declare no knowledge of conflicts of interest.

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Appendix 1: Sensitivity analysis using full information maximum likelihood estimation

Table A1: Mutually adjusted models of unretirement in relation to selected covariates, British Household Panel Survey, N=2394. Discrete-time survival analysis using maximum likelihood estimation with robust standard errors.

	Fully adjusted estimates		
Covariates	Coefficient	p-value	95% CI
Gender			
Male (reference)	1.00	–	–
Female	0.74	0.003	(0.62; 0.87)
Decade of birth			
1920–1929	1.07	0.838	(0.62; 1.84)
1930–1939	0.92	0.624	(0.70; 1.22)
1940–1949 (reference)	1.00	–	–
1950–1959	1.55	0.020	(1.14; 2.11)
Retirement age			
50–59 years (reference)	1.00	–	–
60–65 years	0.84	0.231	(0.67; 1.07)
66–69 years	0.89	0.580	(0.62; 1.27)
Highest educational level			
Post-secondary academic qualification(s) (reference)	1.00	–	–
A-Level	0.85	0.339	(0.65; 1.12)
O-Level, GCSE	0.59	0.001	(0.46; 0.76)
CSE or qualifications below GCSE	0.89	0.756	(0.47; 1.69)
No academic qualifications	0.53	<0.001	(0.42; 0.67)
Subjective financial situation			
Living comfortably/doing alright (reference)	1.00	–	–
Just getting by/finding it difficult/finding it very difficult	1.16	0.256	(0.94; 1.43)
Equivalised household income quintiles			
First (lowest)	1.00	–	–
Second	0.78	0.248	(0.56; 1.11)
Third	0.98	0.930	(0.72; 1.35)
Fourth	1.23	0.290	(0.89; 1.69)
Fifth (highest)	1.01	0.975	(0.72; 1.40)
Housing tenure			
Owned outright (reference)	1.00	–	–

Owned with mortgage	1.37	0.005	(1.14; 1.65)
Rented (local authority, private, etc.)	1.28	0.124	(0.98; 1.67)
Occupational pension			
Member of an occupational pension scheme (reference)	1.00	–	–
Not a member of an occupational pension scheme	1.08	0.520	(0.89; 1.30)
Health			
Excellent, very good or good (reference)	1.00	–	–
Fair, poor or very poor	0.74	0.011	(0.61; 0.90)
Spouse			
Partnered: partner not in paid work (reference)	1.00	–	–
Partnered: partner in paid work	1.25	0.055	(1.03; 1.52)
Unpartnered: never married	1.73	0.010	(1.22; 2.45)
Unpartnered: divorced/separated	1.13	0.528	(0.82; 1.57)
Unpartnered: widowed	1.22	0.372	(0.85; 1.76)
Informal caregiving			
None or less than 20 hours per week	1.00	–	–
Caring at least 20 hours per week	0.77	0.289	(0.51; 1.15)

Note: Participants followed for up to 12 years since retirement. Data from waves 1–18 of the British Household Panel Survey, with participants followed into waves 2–6 of Understanding Society. Authors' calculations.